**New Application: Vascular Neurology**

**Review Committee for Child Neurology or Neurology**

**ACGME**

**Oversight**

**Participating Sites**

1. Will the sponsoring institution also sponsor an ACGME-accredited residency program in child neurology or neurology? [PR.1.2.a.] [ ]  YES [ ]  NO

**Resources**

1. Describe the physical facilities at each site for inpatient and outpatient examination and care of neurology patients. [PR 1.8.a.]

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2. Describe the conference facilities at each site that will be used for vascular neurology conferences. [PR 1.8.a.]

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3. Describe the space provided for faculty members’ and fellows’ research at each site. [PR 1.8.a.]

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Describe the space provided for faculty members’ and fellows’ research at each site. [PR 1.8.a.]

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| **Are the following clinical resources available?** [PR 1.8.a.] | **Site #1** | **Site #2** | **Site #3** |
| --- | --- | --- | --- |
| Stroke stepdown unit | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Neurocritical care unit | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Medical intensive care unit | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Coronary intensive care unit | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Rehabilitation ward | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| **Faculty Offices and Facilities** |  |  |  |
| Vascular neurology faculty offices | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Adult neurology faculty offices | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Secretarial office space for vascular neurology | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Departmental library | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| **Fellow Offices and Resources** |  |  |  |
| Will each fellow have his/her own office? | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Are the only offices for groups of fellows? | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Do the offices have computers with Internet search capabilities? | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Will the fellows have secretarial support? | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Will each fellow have a designated telephone number for patients to call? | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Will the fellows have access to other office equipment, such as copiers, slide projectors, equipment or services to make slides, and illustration service? | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Will the fellows have access to major texts in the department? | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| **Supporting Facilities** |  |  |  |
| Neurosonology |  |  |  |
| Carotid ultrasound | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Transcranial Doppler ultrasound | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Diagnostic radiological services |  |  |  |
| Conventional MRI and MRA | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| MRS | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Diffusion MRI | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Perfusion MRI | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| SPECT | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| PET | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Conventional CT | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| CTA | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Perfusion or Xenon blood flow | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Cardio-diagnostic services |  |  |  |
| Transthoracic echocardiography | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Transesophageal echocardiography | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Cytogenetics and genetic testing | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| **Related Diagnostic and Therapeutic Services** |  |  |  |
| Critical care medicine or neurocritical care medicine | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Interventional neuroradiology | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Neuropsychology | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Occupational therapy | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Physical therapy | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Rehabilitation medicine or neurorehabilitation | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Social services | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Speech therapy | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Vascular neurological surgery | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |
| Vascular surgery | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO | [ ]  YES [ ]  NO |

Patient Statistics

1. Provide the number of inpatients in each of the following diagnostic categories that were available to the program during the past year. Each patient should be listed only once in the most appropriate category. [PR 1.8.b.]

| **Diagnostic Category** | **Site #1** | **Site #2** | **Site #3** |
| --- | --- | --- | --- |
| Cerebral infarct | # | # | # |
| Transient ischemic attack | # | # | # |
| Intracerebral hemorrhage | # | # | # |
| Subarachnoid hemorrhage | # | # | # |
| Epidural or subdural hemorrhage | # | # | # |
| Asymptomatic patient with risk factors for stroke | # | # | # |
| Other: Specify | # | # | # |
| Specify | # | # | # |
| Specify | # | # | # |
| Specify | # | # | # |
| Specify | # | # | # |
| Specify | # | # | # |
| **TOTAL** | **#** | **#** | **#** |

1. Inpatient Data. [PR 1.8.b.]

|  | **Site #1** | **Site #2** | **Site #3** |
| --- | --- | --- | --- |
| **Bed Capacity** |
| Vascular neurology beds (assigned or available) | **#** | **#** | **#** |
| **Admission Data (past year)** |
| Total admissions to vascular neurology | # | # | # |
| Percent male | #% | #% | #% |
| Percent available for teaching (with fellow participation) | #% | #% | #% |
| Average daily census/vascular neurology | # | # | # |
| **Average Monthly Team Size** |
| Vascular neurology fellows | # | # | # |
| Rotating fellows | # | # | # |
| Students | # | # | # |

3. Outpatient Data [PR 1.8.b.]

| **Vascular Neurology Clinics** | **Site #1** | **Site #2** | **Site #3** |
| --- | --- | --- | --- |
| Planned number of fellow clinics per month | # | # | # |
| Average number of visits per month | # | # | # |
| Average number of new patients per month | # | # | # |
| Estimated % of visits that will be seen by the fellows | #% | #% | #% |
| Planned average number of fellows per clinic | # | # | # |
| Planned frequency of fellows’ assignments to clinic | # | # | # |
| Planned average number of attending physicians in vascular neurology fellow clinics | # | # | # |
| Planned average vascular neurology attending/fellows ratio | # | # | # |

4.Outpatient Diagnostic Categories

Provide the number of outpatients in each of the following diagnostic categories that were available to the program during the past year. Each patient should be listed only once in the most appropriate category. [PR 1.8.b.]

| **Diagnostic Category** | **Site #1** | **Site #2** | **Site #3** |
| --- | --- | --- | --- |
| Cerebral infarct | # | # | # |
| Transient ischemic attack | # | # | # |
| Intracerebral hemorrhage | # | # | # |
| Subarachnoid hemorrhage | # | # | # |
| Epidural or subdural hemorrhage | # | # | # |
| Asymptomatic patient with risk factors for stroke | # | # | # |
| **TOTAL** | **#** | **#** | **#** |

5. Specialty Clinics

| **Name:** Click here to enter text. | **Site #1** | **Site #2** | **Site #3** |
| --- | --- | --- | --- |
| Number of clinics per month | # | # | # |
| Average number of visits per clinic | # | # | # |
| Estimated % of visits that will be seen by the fellows | #% | #% | #% |

| **Name:** Click here to enter text. | **Site #1** | **Site #2** | **Site #3** |
| --- | --- | --- | --- |
| Number of clinics per month | # | # | # |
| Average number of visits per clinic | # | # | # |
| Estimated % of visits that will be seen by the fellows | #% | #% | #% |

| **Name:** Click here to enter text. | **Site #1** | **Site #2** | **Site #3** |
| --- | --- | --- | --- |
| Number of clinics per month | # | # | # |
| Average number of visits per clinic | # | # | # |
| Estimated % of visits that will be seen by the fellows | #% | #% | #% |

| **Name:** Click here to enter text. | **Site #1** | **Site #2** | **Site #3** |
| --- | --- | --- | --- |
| Number of clinics per month | # | # | # |
| Average number of visits per clinic | # | # | # |
| Estimated % of visits that will be seen by the fellows | #% | #% | #% |

**Personnel**

## Program Director

1. Will the program director be provided with support adequate for administration of the program based upon its size and configuration? [PR 2.3.. and 2.3.a.] [ ]  YES [ ]  NO
2. Will the percentage of dedicated time for program directors with four or more fellows be at least 15 percent FTE? [PR 2.3.a.] [ ]  YES [ ]  NO

**Faculty**

Provide the following information for program faculty members:

| **Discipline/Service**[PR 2.9.a.1.] | **Number who Interact with Vascular Neurology Patients** | **Name of Primary Person who Interacts with Vascular Neurology Fellows or Division Chief or Chair** | **Site #** |
| --- | --- | --- | --- |
| **MEDICINE:** |
| **Cardiology** | # | Name | # |
| **Neurorehabilitation** | # | Name | # |
| **SURGICAL:** |
| Neurological Surgery | # | Name | # |
| Vascular Surgery | # | Name | # |

**Educational Program**

**ACGME Competencies**

**Patient Care and Procedural Skills**

1. Indicate the settings and activities in which fellows will demonstrate competence in the following areas of patient care. Also indicate the method(s) that will be used to assess competence.

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Managing vascular neurology patients in outpatient and inpatient settings, including in critical care units[PR 4.4.b.] | Settings/activities | Assessment method(s) |
| Developing comprehensive plans for the management of stroke patients[PR 4.4.b.] | Settings/activities | Assessment method(s) |
| Integrating information obtained from patient history, physical examination, imaging study results, and biochemical and molecular tests results to arrive at an accurate and timely diagnosis and treatment plan[PR 4.4.c.] | Settings/activities | Assessment method(s) |
| Understanding of the indications and potential limitations of invasive management options in the context of the clinical situation[PR 4.4.d.] | Settings/activities | Assessment method(s) |
| Cranial and spinal MRI and CT*;* MRI, cerebral angiography; and carotid and cranial Doppler studies[PR 4.4.d.] | Settings/activities | Assessment method(s) |
| Biochemical and molecular testing for strokes in patients of different age groups[PR 4.4.e.] | Settings/activities | Assessment method(s) |
| Temporal profile of the clinical, biochemical, and radiological changes that accompany vascular insults of the nervous system[PR 4.4.f.] | Settings/activities | Assessment method(s) |

1. Indicate the settings and activities in which fellows will demonstrate competence in the performance of the following medical, diagnostic, and surgical procedures considered essential for practice. Also indicate the method(s) that will be used to assess fellow competence.

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Evaluation and treatment of patients with a wide range of diseases resulting in vascular insults of the nervous system, including: |
| Aneurysmal subarachnoid hemorrhage (SAH)[PR 4.5.a.1.] | Settings/activities | Assessment method(s) |
| Aortic arch cerebral and spinal embolism[PR 4.5.a.2.] | Settings/activities | Assessment method(s) |
| Cardiogenic brain embolism[PR 4.5.a.3.] | Settings/activities | Assessment method(s) |
| Cerebral venous thrombosis[PR 4.5.a.4.] | Settings/activities | Assessment method(s) |
| Complications of vascular disease, including raised intracranial pressure, sepsis, and venous thrombosis[PR 4.5.a.5.] | Settings/activities | Assessment method(s) |
| Genetic and metabolic disorders[PR 4.5.a.6.] | Settings/activities | Assessment method(s) |
| Hematological clotting disorders[PR 4.5.a.7.] | Settings/activities | Assessment method(s) |
| Hemodynamic brain ischemia[PR 4.5.a.8.] | Settings/activities | Assessment method(s) |
| Hypertensive encephalopathy[PR 4.5.a.9.] | Settings/activities | Assessment method(s) |
| Intracerebral hemorrhage[PR 4.5.a.10.] | Settings/activities | Assessment method(s) |
| Large vessel cerebral atherosclerosis[PR 4.5.a.11.] | Settings/activities | Assessment method(s) |
| Migraine[PR 4.5.a.12.] | Settings/activities | Assessment method(s) |
| Small cerebral artery occlusive disease[PR 4.5.a.13.] | Settings/activities | Assessment method(s) |
| Spinal cord infarction[PR 4.5.a.14.] | Settings/activities | Assessment method(s) |
| Substance use disorder and drug toxicities[PR 4.5.a.15.] | Settings/activities | Assessment method(s) |
| Subdural hematomas[PR 4.5.a.16.] | Settings/activities | Assessment method(s) |
| Vascular malformations[PR 4.5.a.17.] | Settings/activities | Assessment method(s) |
| Vasculopathies, including inflammatory, infectious, moyamoya, and arterial dissection[PR 4.5.a.18.] | Settings/activities | Assessment method(s) |

**Medical Knowledge**

Indicate the activities (lectures, conferences, journal clubs, clinical teaching rounds, etc.) in which fellows will demonstrate competence in their knowledge in each of the following areas. Also indicate the method(s) that will be used to assess fellow competence.

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Epidemiology, basic science, clinical neurology, neuroimaging, critical care, neuroendovascular intervention, neurological vascular surgery, neurosonology, cerebral blood flow and metabolism, neuro-behavior, neurorehabilitation, and the vascular supply of the central nervous system and its alteration by disease[PR 4.6.a.] | Settings/activities | Assessment method(s) |
| The indications for intubation and extubation/weaning, the general principles of ventilator management, and the placement of catheters for the supportive care and pharmacological treatment of strokes[PR 4.6.b.] | Settings/activities | Assessment method(s) |
| Fundamental mechanisms of stroke and other nervous system vascular disorders, including: |
| Clinical manifestations[PR 4.6.c.1.]  | Settings/activities | Assessment method(s) |
| Diagnostic strategies[PR 4.6.c.2.] | Settings/activities | Assessment method(s) |
| Epidemiologic issues[PR 4.6.c.3.] | Settings/activities | Assessment method(s) |
| Etiopathogenic characterization[PR 4.6.c.4.] | Settings/activities | Assessment method(s) |
| Treatment strategies[PR 4.6.c.5.] | Settings/activities | Assessment method(s) |

**Practice-based Learning and Improvement**

1. Briefly describe one learning activity in which fellows demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning. [PR 4.7.] (Limit response to 400 words)

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**Interpersonal and Communication Skills**

1. Briefly describe one learning activity in which fellows demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. [PR 4.8.](Limit response to 400 words)

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**Systems-based Practice**

1. Briefly describe the learning activity(ies) by which fellows will demonstrate an awareness of and responsiveness to the larger context and system of health care, including the structural and social determinants of health, as well as the ability to call effectively on other resources in the system to provide optimal health care. [PR 4.9.] (Limit response to 400 words)

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**Curriculum Organization and Fellow Experiences**

1. Provide a list of the planned teaching conferences, pathology meetings, neuroanatomy courses, neuroscience grand rounds related to vascular neurology, and multidisciplinary conferences with neuroradiology, neurological surgery, and neuropathology. [PR 4.11.a.]

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1. Is there a journal club? Specify planned attendance by fellows and faculty members, planned frequency of meeting, and organization of the club. If there is no journal club, what will substitute for it? [PR 4.11.a.]

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1. Provide a planned schedule of formal lectures and clinical teaching conferences for fellows at each site. Name the faculty member assigned to the conference. Indicate which conferences are mandatory for the fellows. [PR 4.11.b.]

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1. Will this schedule allow the program to cover all of the topics listed in Program Requirements 4.5.a. and 4.6.? [PR 4.11.b.] [ ]  YES [ ]  NO

If any topics will not be covered, list here and explain:

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1. Describe how often teaching rounds will be held each week for patients on the vascular neurology service and/or consult service. Describe the complement of the team making attending rounds. Describe the planned responsibilities of the vascular neurology fellows and of residents rotating from other services. [PR 4.11.c.1.]

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1. Briefly describe how fellows will receive advanced and extensive instruction in those basic sciences on which vascular neurology is founded, including: neuroanatomy, neurobiology neuroepidemiology, neuropathology, and neuropharmacology, as well as mechanisms of atherosclerosis and coagulation. [PRs 4.11.e.; 4.11.e.1.] (Limit response to 400 words)

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1. Will didactic lectures and seminars include the basic neurological sciences as they pertain to stroke? [PR 4.11.e.2.] [ ]  YES [ ]  NO

6. Clinical Experience: Will fellows have instruction and clinical experience to foster the development of diagnostic, procedural, technical, and patient management skills essential to the practice of vascular neurology, including: [PR 4.11.f.]

1. Acquiring systems-based skills that include working in outpatient and inpatient settings and effectively utilizing health care resources, to include rehabilitation and radiology services.
[PR 4.11.f.1.] [ ]  YES [ ]  NO
2. Formulating a clinical diagnosis, and ordering and using laboratory data to clinically evaluate a patient’s condition and to support outpatient and inpatient diagnostic evaluations.
[PR 4.11.f.2.] [ ]  YES [ ]  NO
3. Learning about the effectiveness of procedures to manage stroke. [PR 4.11.f.3.]
 [ ]  YES [ ]  NO
4. Observing, evaluating, and managing patients of all ages with a wide variety of disorders of the cerebrovascular and nervous systems. [PR 4.11.f.4.] [ ]  YES [ ]  NO
5. Participating in clinical experiences that provide stroke care appropriate for primary and comprehensive stroke centers, as well as in professional development. [PR 4.11.f.5.]
 [ ]  YES [ ]  NO

7. Specify how fellows will directly manage vascular neurology inpatients. [PR 4.4.b.]

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1. Describe the structure for supervision of fellow participation in patient care, responsibility for decision-making, and teaching, including how fellows are afforded progressive responsibility. Who will write orders on inpatients? Will a fellow write notes on all or only some of the patients? Note differences that may relate to (a) economic status of the patient; (b) status of the responsible physician, either full- or part-time, and whether or not hospital-based; (c) exclusion of fellows from responsibility in management of any patients. Will all patients of the teaching staff be available for fellow education? [PR 4.11.g.]

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8. Specify how fellows will directly manage vascular neurology outpatients. [PR 4.11.j.]

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**Scholarship**

1. Describe how the curriculum will advance fellows’ knowledge of the basic principles of evidence-based medicine and research, including how research is conducted, evaluated, explained to patients, and applied to patient care. [PR 4.15.]

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1. Will fellows participate in scholarly activity under the mentorship of program faculty members?
[PR 4.15.a.] [ ]  YES [ ]  NO
2. Will the sponsoring institution and program allocate adequate educational resources to facilitate fellow involvement in scholarly activities? [PR 4.15.b.] [ ]  YES [ ]  NO
3. Will fellows receive support to attend one regional, national, or international professional conference during the program? [PR 4.15.c.] [ ]  YES [ ]  NO

**The Learning and Working Environment**

**Transitions of Care**

How will continuity of care be ensured? Will fellows maintain care throughout a patient’s hospitalization? Will fellows see their patients on weekends, and, if not, how will continuity of care be maintained? Will fellows see patients admitted to them in clinic follow-up? [PR 6.19.-6.19.b.]

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**Night Float**

Outline fellow responsibility and frequency on night call at each site. [PR 6.26.]

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